

Docket No.: 10010107-1
PELT-27349
(PATENT)

AMENDMENTS TO THE CLAIMS

1 1. (Currently Amended) A serial communications link comprising:
2 a scrambler device for receiving a an original data bit stream, the scrambler
3 device scrambles groups of data in the data bit stream to statistically balance the number of
4 logic low and logic high bits in the groups of data and converting said original data bit stream
5 into scrambled data; and
6 an ECC encoder device that receives the scrambled groups of data from the
7 scrambler device and convertsfor converting said scrambled groups of data into ECC-
8 encoded data.

1 2. (Original) The system as recited in Claim 1, further comprising:
2 a serializer for converting said ECC-encoded data into serialized data;
3 wherein the ECC-encoded data includes frame alignment information; and
4 the system further comprises a receiver for receiving said serialized data and
5 converting the serialized data into data frames based upon the frame alignment information.

1 3. (Previously Amended) The system as recited in Claim 2, wherein the receiver
2 comprises:
3 a frame-recoverer for converting said serialized data into data frames;
4 an ECC decoder for converting said data frames into ECC-decoded data and
5 error indications; and
6 a descrambler for converting said ECC-decoded data into de-scrambled data.

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1 4. (Previously Presented) The system as recited in Claim 3, wherein said frame-
2 recoverer uses said error indications in converting said serialized data into data frames.

1 5. (Original) The system as recited in Claim 1, wherein said ECC encoder applies an
2 error correction code in converting said scrambled data into said ECC-encoded data.

1 6. (Currently Amended) A serial communications method, comprising the steps of:
2 receiving ~~a an original~~ data bit stream at a scrambler device, said ~~original~~ data
3 bit stream comprising data bits and other bits;
4 converting said ~~original~~ data bit stream into scrambled data, by said scrambler
5 device, prior to performing another data function on said ~~original~~ data bit stream, said
6 scrambled data comprising groups of data bits having a statistically balanced number of logic
7 low and logic high data bits in each group; and
8 converting said scrambled data into ECC-encoded data.

1 7. (Original) The method as recited in Claim 6, further comprising the steps of:
2 generating a serial stream of the ECC-encoded data; and
3 transmitting said serial stream.

1 8. (Original) The method of Claim 7, wherein:
2 the ECC-encoded data includes frame alignment information; and
3 the method further comprises receiving said serialized data and converting
4 said serialized data into data frames based upon said frame alignment information.

1 9. (Original) The method of Claim 7, further comprising:
2 receiving said serialized data;

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- 3 converting said serialized data into data frames;
- 4 converting said data frames into ECC-decoded data and error indications; and
- 5 converting said ECC-decoded data into de-scrambled data.

1 10. (Original) The method of Claim 9, wherein the step of converting the serialized
2 data comprises converting the serialized data into data frames based upon said error
3 indications.

1 11. - 33. (canceled)

1 34. (Currently Amended) A serial communication link comprising:
2 a scrambler device programed to convert a received bit stream into groups of
3 K scrambled data bits so as to statistically balance the number of logic low and logic high bits
4 in each group of K scrambled data bits, having data bits therein, into scrambled data; said
5 received bit stream being without redundant bits and without being encoded prior to being
6 scrambled ; and
7 an ECC encoder programmed to convert said scrambled data into ECC-
8 encoded data.

1 35. (new) A serial communications link comprising:
2 a scrambler device for receiving a data bit stream having no previous encoding
3 or byte reordering done to said data bit stream, the scrambler device scrambles groups of data
4 in the data bit stream and converts said data bit stream into scrambled groups of data; and
5 an ECC encoder device that receives the scrambled groups of data from the
6 scrambler device and converts said scrambled groups of data into ECC-encoded data.

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- 1 36. (new) A serial communications method, comprising the steps of:
- 2 receiving a data bit stream at a scrambler device, said data bit stream
- 3 comprising data bits and other bits that have not been previously encoded or byte reordered;
- 4 converting said data bit stream into scrambled data, by said scrambler device,
- 5 prior to performing another data function on said data bit stream; and
- 6 converting said scrambled data into ECC-encoded data.

- 1 37. (new) A serial communication link comprising:
- 2 a scrambler device programed to convert an unencoded received bit stream,
- 3 into scrambled data; and
- 4 an ECC encoder programmed to convert said scrambled data into ECC-
- 5 encoded data.